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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,855	02/02/2006	Dirk Cnockaert	016782-0344	6433
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EXAMINER				
BERMAN, JASON				
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1795				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,855

Applicant(s)

CNOCKAERT ET AL.

Examiner

Jason M. Berman

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 12/30/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of the Claims

Claims 1-13 are pending in the current application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by McKelvey (US 4,443,318).

As to claim 1, McKelvey discloses a target assembly comprising:

- A rotatable target tube and a central body (abstract: rotating tube with targets and central magnetron array); and
- Inside the tube a bearing system for rotatably supporting the tube by the body (figure 1: trunnion 38), and a rotatable vacuum seal for enabling a vacuum in the tube (figure 1: end cap 23).

As to claims 2-5, because claim 1 only requires at least one of the listed components within the tube, claims 2-5 are not further limiting of claim 1 when the drive means is not one of the selected components. Claims 2-5 are therefore within the disclosure of McKelvey.

As to claim 6, McKelvey discloses a sputtering apparatus within walls of an evacuable chamber comprising a first and second coupling means connected to the

chamber walls for removably coupling the body to the first and second coupling means (figure 1: showing screws 26a and 55 for securing the sputtering apparatus to the walls of chamber 11).

As to claim 7, McKelvey discloses a sputtering apparatus positioned within the walls of an evacuable chamber comprising a target assembly with one coupling means connected to the walls for removably coupling the body to the coupling means (figure 1: showing screws 26a and 55 for securing the sputtering apparatus to the walls of chamber 11).

As to claim 8, McKelvey discloses a target assembly comprising:

- A rotatable target tube and first and second central body (Figure 3: showing rotatable tube 21 with central cooling tube 36 and magnet array 45); and
- Inside the tube a bearing system for rotatably supporting the tube by the body (figure 1: trunnion 38), and a rotatable vacuum seal for enabling a vacuum in the tube (figure 1: end cap 23).

As to claim 9, McKelvey discloses the first and second body coupled to one another (figure 1: showing hanger straps 37 for connecting cooling tube 36 with magnet 22; col 3 lines 6-14).

As to claim 10 and 12, McKelvey discloses a sputtering apparatus within walls of an evacuable chamber comprising a first and second coupling means connected to the chamber walls for removably coupling the body to the first and second body to first and

second coupling means (figure 1: showing screws 26a and 55 for securing the sputtering apparatus to the walls of chamber 11).

As to claim 11 and 13, McKelvey discloses a sputtering apparatus positioned within the walls of an evacuable chamber comprising a target assembly with one coupling means connected to the walls for removably coupling the first body to the coupling means (figure 1: showing screws 26a and 55 for securing the sputtering apparatus to the walls of chamber 11).

3. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Dickey (US 5,725,746 as cited in IDS).

As to claim 1, Dickey discloses a target assembly comprising:

- A rotatable target tube and a central body (abstract: rotating cylindrical sputtering cathode); and
- Inside the tube a bearing system for rotatably supporting the tube by the body (col 8 lines 40-45: bearing 178 for tube 130; figure 4), a drive means for rotating the tube relative to the body (col 8 lines 45-46: drive spindle 170; figure 4), and a rotatable vacuum seal for enabling a vacuum in the tube (col 8 lines 42-43: cathode body sealed by plugs 160 and 162).

As to claims 2-5, because claim 1 only requires at least one of the listed components within the tube, claims 2-5 are not further limiting of claim 1 when the drive means is not one of the selected components. Claims 2-5 are therefore within the disclosure of Dickey.

As to claim 6, Dickey discloses a sputtering apparatus within walls of an evacuable chamber comprising a first and second coupling means connected to the chamber walls for removably coupling the body to the first and second coupling means (figure 4: showing end blocks 114 and 116 connected to chamber wall 110 with fluid and electrical couplings 126 and 154).

As to claim 7, Dickey discloses a sputtering apparatus positioned within the walls of an evacuable chamber comprising a target assembly with one coupling means connected to the walls for removably coupling the body to the coupling means (figures 2 and 3: showing cylindrical cathode and target connected to wall through screw 49).

As to claim 8, Dickey discloses a target assembly comprising:

- A rotatable target tube and first and second central body (figure 5: cathode 190 with magnet array 208 and cooling tube 210); and
- Inside the tube a bearing system for rotatably supporting the tube by the body (col 8 lines 40-45: bearing 178 for tube 130; figure 4), a drive means for rotating the tube relative to the body (col 8 lines 45-46: drive spindle 170; figure 4), and a rotatable vacuum seal for enabling a vacuum in the tube (col 8 lines 42-43: cathode body sealed by plugs 160 and 162).

As to claim 9, Dickey discloses the first and second body coupled to one another (figure 4: showing bracket 134 for connected magnet to tube 130; col 8 lines 32-34).

As to claim 10 and 12, Dickey discloses a sputtering apparatus within walls of an evacuable chamber comprising a first and second coupling means connected to the chamber walls for removably coupling the body to the first and second body to first and

second coupling means (figure 4: showing end blocks 114 and 116 connected to chamber wall 110 with fluid and electrical couplings 126 and 154).

As to claim 11 and 13, Dickey discloses a sputtering apparatus positioned within the walls of an evacuable chamber comprising a target assembly with one coupling means connected to the walls for removably coupling the first body to the coupling means (figures 2 and 3: showing cylindrical cathode and target connected to wall through screw 49).

4. Claims 1-5, 7-9, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Stevenson (US 5,200,049 as cited in IDS).

As to claim 1, Stevenson discloses a target assembly comprising:

- A rotatable target tube and a central body (abstract: rotatable cylindrical magnetron; figure 1: magnetron in sputtering cathode tube 21); and
- Inside the tube a bearing system for rotatably supporting the tube by the body (figure 1: bearings 52, 54, 82, and 13), a rotatable vacuum seal for enabling a vacuum in the tube (figure 1: plug 70 and O-ring seals 71 and 73).

As to claims 2-5, because claim 1 only requires at least one of the listed components within the tube, claims 2-5 are not further limiting of claim 1 when the drive means is not one of the selected components. Claims 2-5 are therefore within the disclosure of Stevenson.

As to claim 7, Stevenson discloses a sputtering apparatus positioned within the walls of an evacuable chamber comprising a target assembly with one coupling means connected to the walls for removably coupling the body to the coupling means (figure 1: bolts 44 connected flange support to chamber walls).

As to claim 8, Dickey discloses a target assembly comprising:

- A rotatable target tube and first and second central body (abstract: rotatable cylindrical magnetron; figure 4: magnetron 124 and cooling tube 80 in cathode tube 21); and
- Inside the tube a bearing system for rotatably supporting the tube by the body (figure 1: bearings 52, 54, 82, and 13), a rotatable coolant seal (figure 1: sealing plug 128) a rotatable vacuum seal for enabling a vacuum in the tube (figure 1: plug 70 and O-ring seals 71 and 73).

As to claim 9, Stevenson discloses the first and second body coupled to one another (figure 4: showing bracket 126 connecting magnet array 124 tube 80).

As to claim 11 and 13, Dickey discloses a sputtering apparatus positioned within the walls of an evacuable chamber comprising a target assembly with one coupling means connected to the walls for removably coupling the first body to the coupling means (figure 1: bolts 44 connected flange support to chamber walls).

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Berman whose telephone number is (571)270-5265. The examiner can normally be reached on M-R 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571)272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nam X Nguyen/
Supervisory Patent Examiner, Art Unit 1753

/J. M. B./
Examiner, Art Unit 1795